MEASURED WEIGHT	SEAT STATUS	PAD LAMP STATUS
MEAS_WT <= THR_OCC	EMPTY	OFF
MEAS_WT > THR_OCC MEAS_WT < THR_ALLOW	OCCUPIED_SUPPRESS	ON
MEAS_WT >= THR_ALLOW	OCCUPIED_ALLOW	OFF

FIG. 1

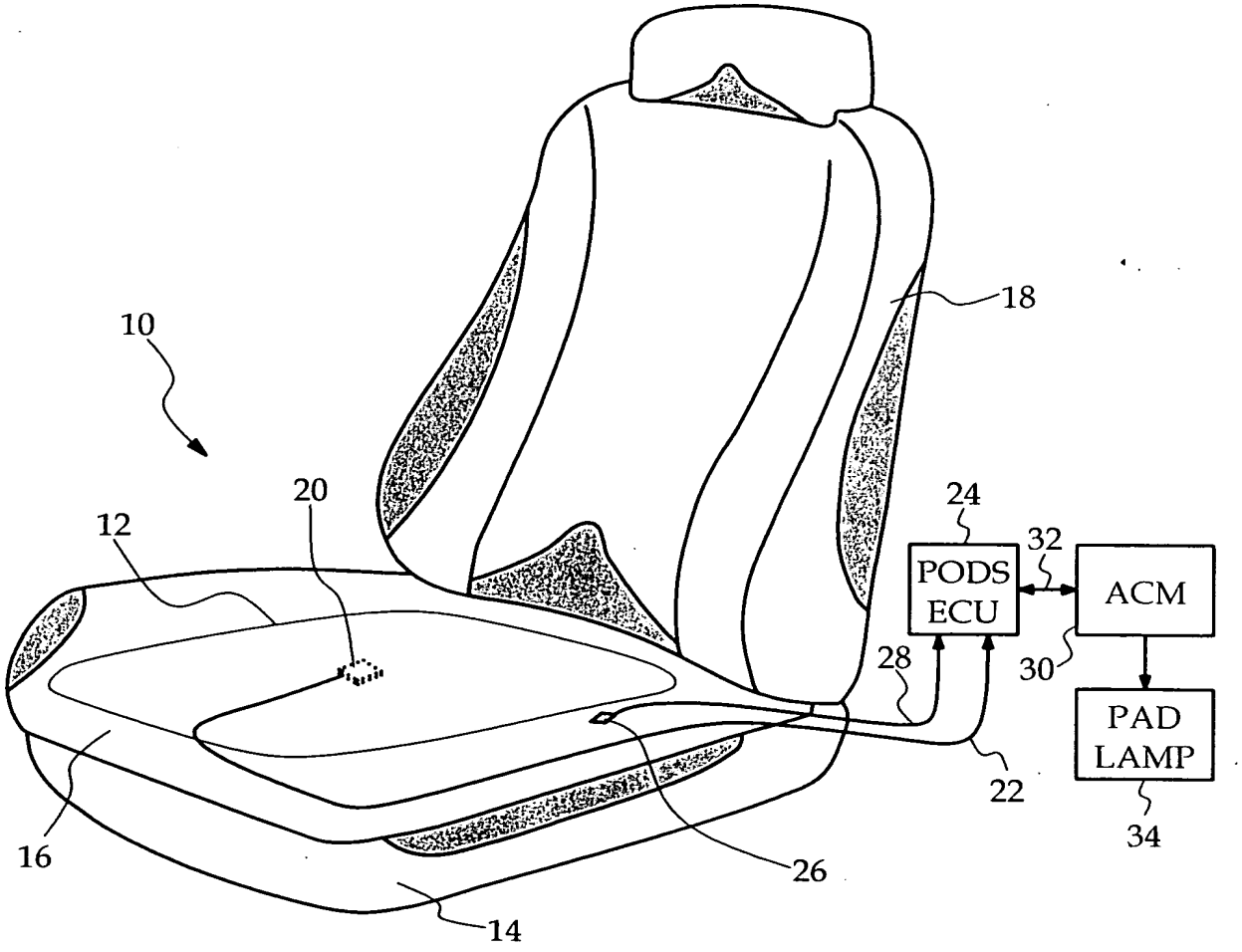

FIG. 2

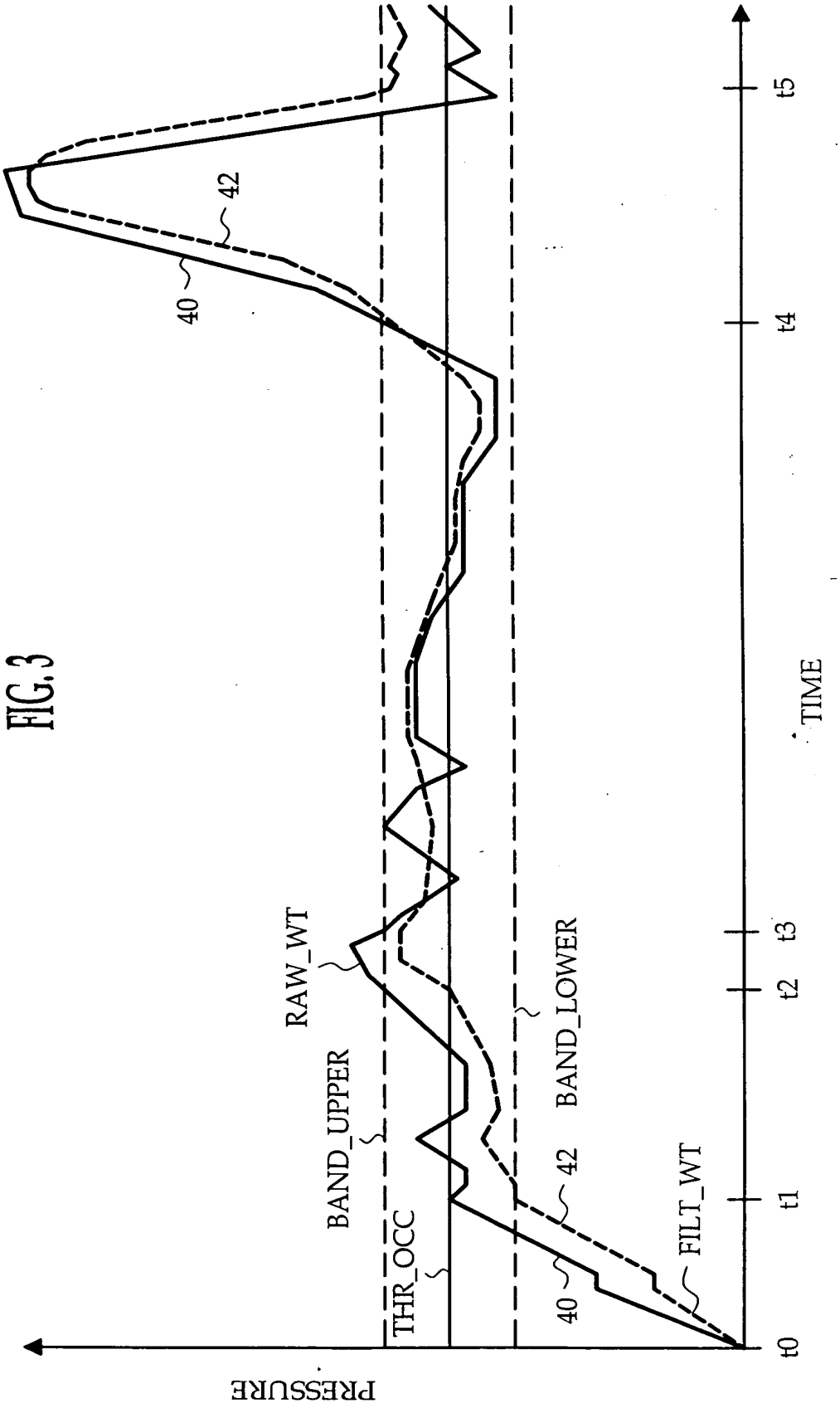
PRESSURE
TIME
t0
t1
t2
t3
t4
t5
40
42
FILT_WT
BAND_LOWER
BAND_UPPER
RAW_WT
THR_OCC

FIG. 3

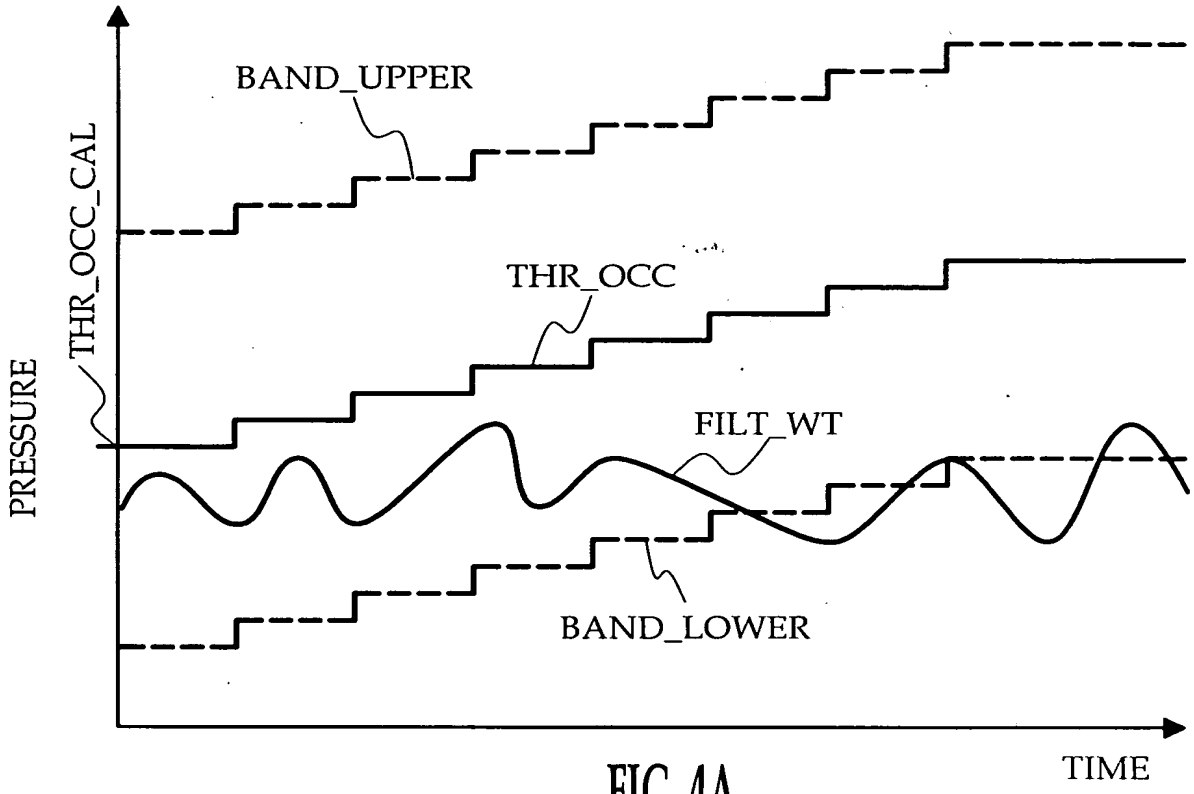
BAND_UPPER
THR_OCC_CAL
THR_OCC
FILT_WT
PRESSURE
BAND_LOWER
TIME

FIG. 4A

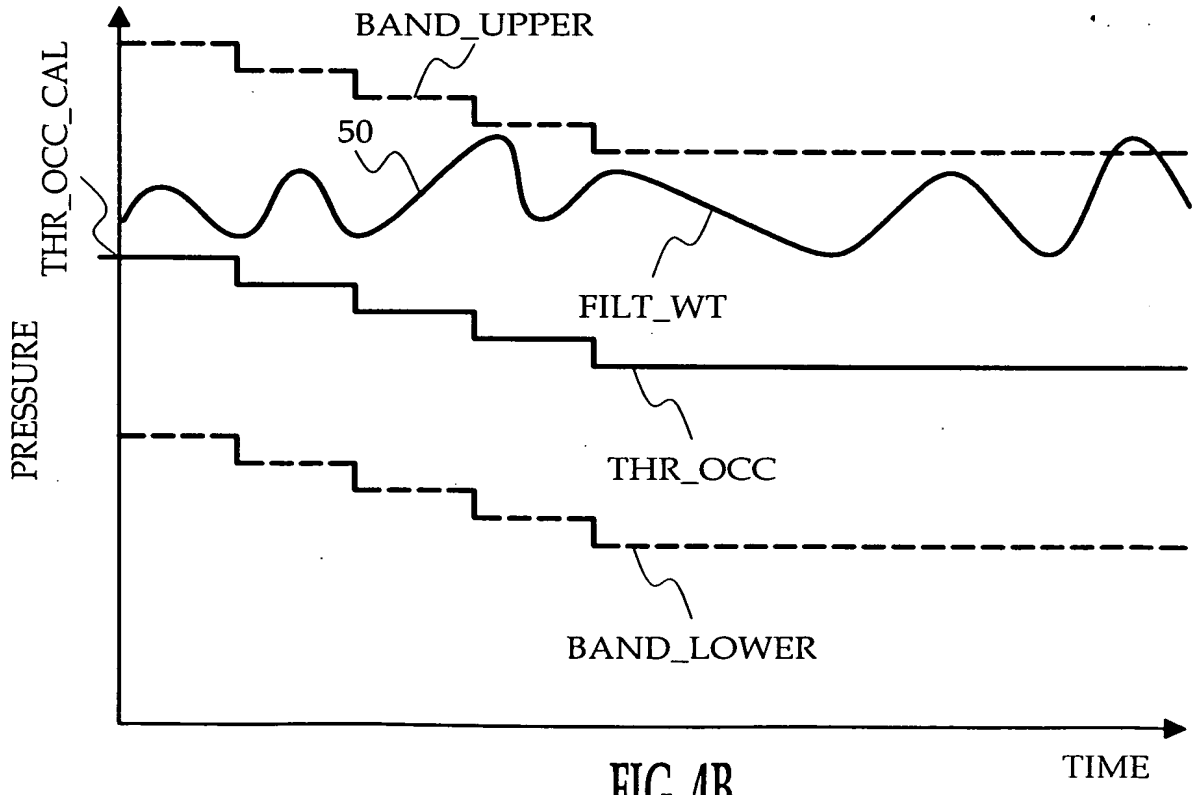
BAND_UPPER
50
THR_OCC_CAL
FILT_WT
PRESSURE
THR_OCC
BAND_LOWER
TIME

FIG. 4B

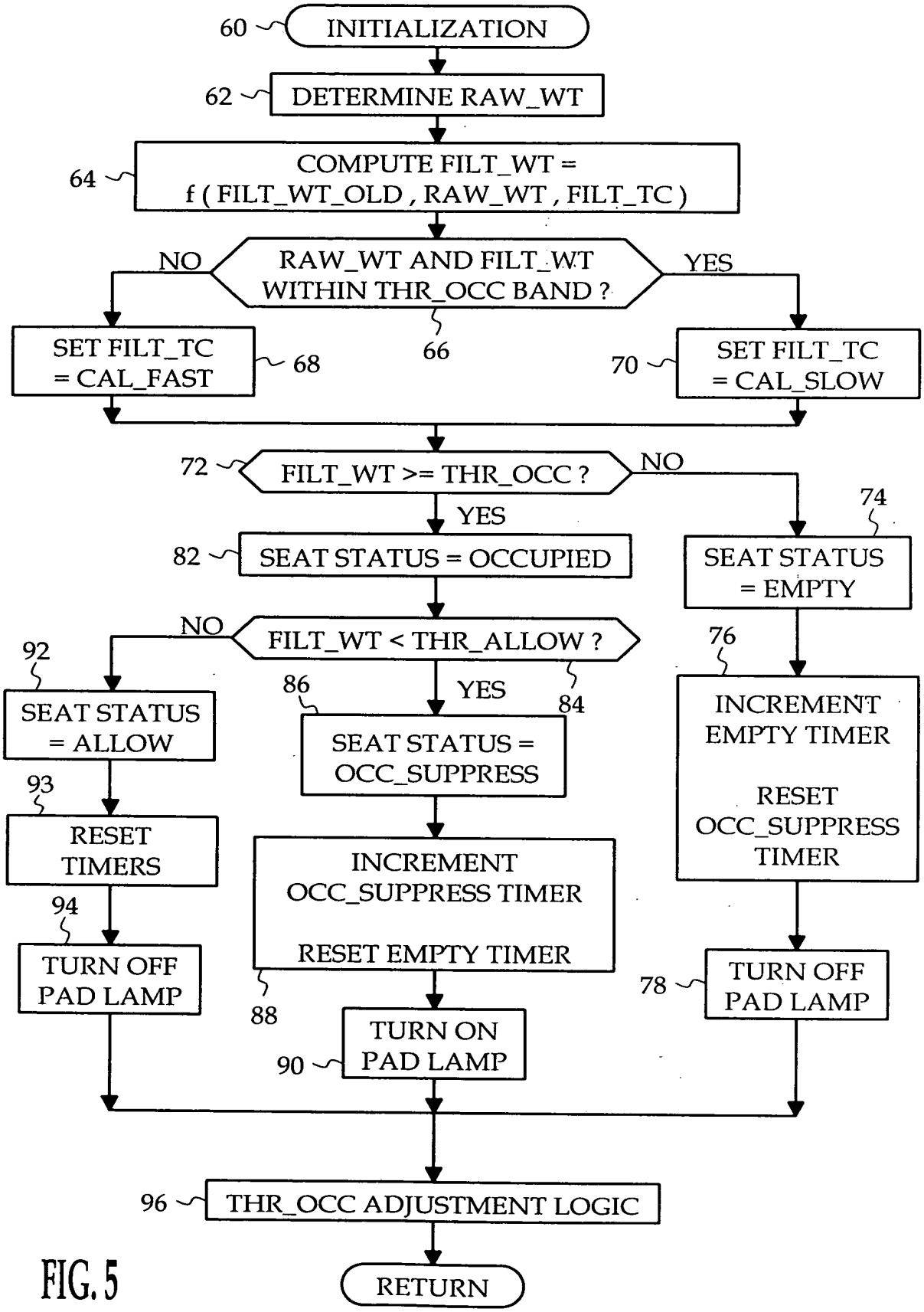
60
INITIALIZATION
62
DETERMINE RAW_WT
64
COMPUTE FILT_WT =
f (FILT_WT_OLD , RAW_WT , FILT_TC)
NO
RAW_WT AND FILT_WT
WITHIN THR_OCC BAND ?
YES
66
SET FILT_TC
= CAL_FAST
68
SET FILT_TC
= CAL_SLOW
70
72
FILT_WT >= THR_OCC ?
NO
YES
74
82
SEAT STATUS = OCCUPIED
SEAT STATUS
= EMPTY
NO
FILT_WT < THR_ALLOW ?
92
86
YES
84
76
SEAT STATUS
= ALLOW
SEAT STATUS =
OCC_SUPPRESS
INCREMENT
EMPTY TIMER
RESET
OCC_SUPPRESS
TIMER
93
RESET
TIMERS
INCREMENT
OCC_SUPPRESS TIMER
RESET EMPTY TIMER
94
TURN OFF
PAD LAMP
88
78
TURN OFF
PAD LAMP
TURN ON
PAD LAMP
90
96
THR_OCC ADJUSTMENT LOGIC
RETURN

FIG. 5

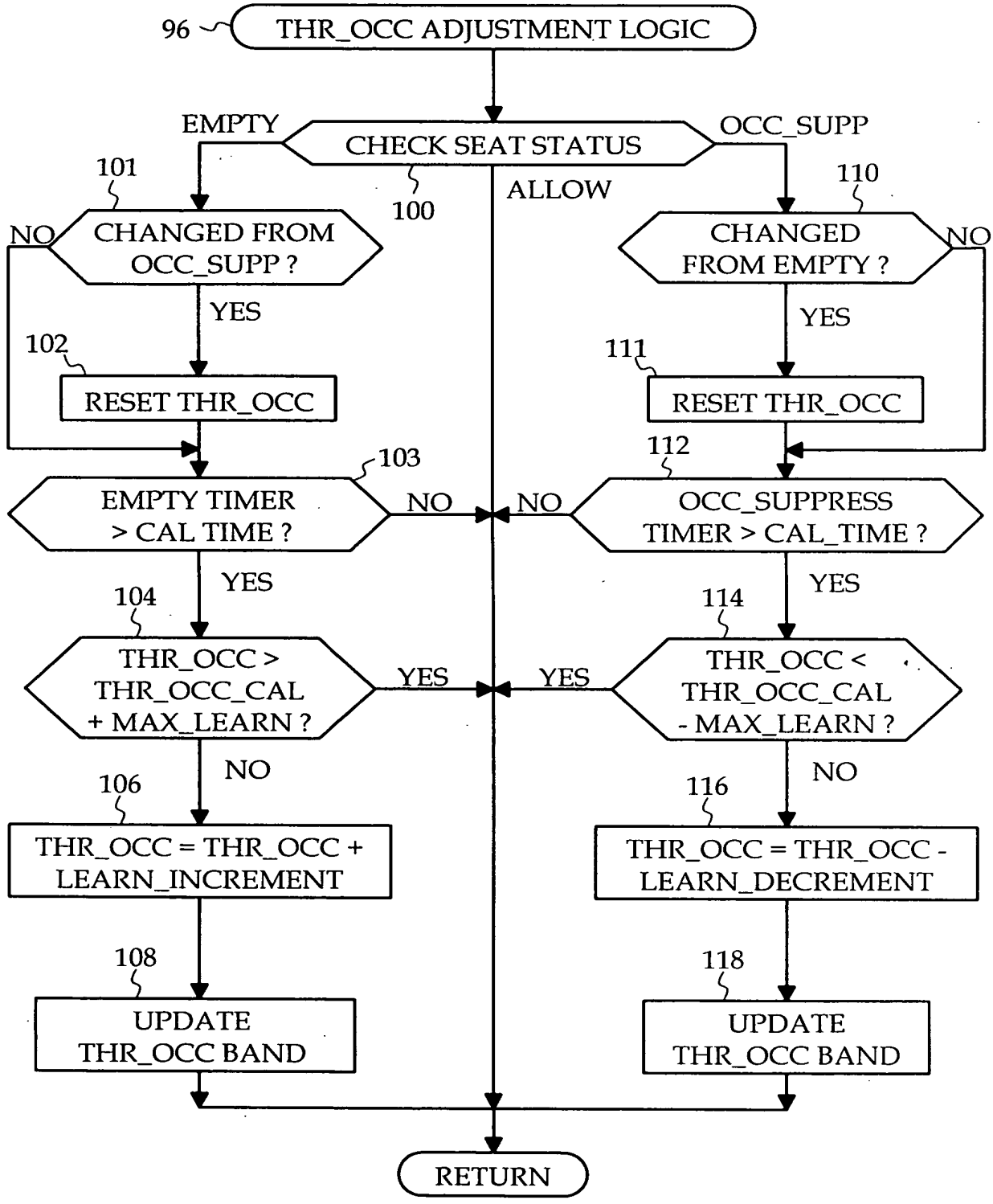
96
THR_OCC ADJUSTMENT LOGIC
EMPTY
CHECK SEAT STATUS
OCC_SUPP
100
ALLOW
101
NO
CHANGED FROM OCC_SUPP ?
YES
102
RESET THR_OCC
110
CHANGED FROM EMPTY ?
NO
YES
111
RESET THR_OCC
103
EMPTY TIMER > CAL TIME ?
NO
NO
112
OCC_SUPPRESS TIMER > CAL_TIME ?
YES
YES
104
THR_OCC > THR_OCC_CAL + MAX_LEARN ?
YES
YES
114
THR_OCC < THR_OCC_CAL - MAX_LEARN ?
NO
NO
106
THR_OCC = THR_OCC + LEARN_INCREMENT
116
THR_OCC = THR_OCC - LEARN_DECREMENT
108
UPDATE THR_OCC BAND
118
UPDATE THR_OCC BAND
RETURN

FIG. 6